



500.43450X00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: H. YASUKAWA, et al

Serial No.: 10/765,883

Filed: January 29, 2004

For: STORAGE CONTROL APPARATUS AND A CONTROL METHOD
THEREOF

**PETITION TO MAKE SPECIAL
UNDER 37 CFR §1.102(MPEP §708.02)**

MS Petition

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

September 9, 2005

Sir:

Applicants hereby petition the Commissioner to make the above-identified application special in accordance with 37 CFR §1.102(d). Pursuant to MPEP §708.02(VIII), Applicants state the following.

(A) This Petition is accompanied by the fee set forth in 37 CFR §1.17(h).

The Commissioner is hereby authorized to charge any additional payment due, or to credit any overpayment, to Deposit Account No. 50-1417.

(B) All claims are directed to a single invention.

If the Office determines that all claims are not directed to a single invention, Applicant will make an election without traverse as a prerequisite to the grant of special status in conformity with established telephone restriction practice.

(C) A pre-examination search has been conducted.

The search was directed towards storage control apparatus and method for controlling a storage control apparatus. According to the present invention the storage control apparatus includes a data I/O control unit, which has a plurality of communication ports that can be communicatively connected any of a plurality of information processing apparatuses, and which is communicatively connected to a plurality of physical disk drives for storing data, receives a data I/O request for data stored in the physical disk drives from the information processing apparatuses via the communication ports, and performs data read/write from/to the physical disk drives in accordance with the received data I/O request; a first memory storing a data which is read/written among the data stored in the physical disk drives; and a second memory storing information on management of storage resources including the communication ports, the physical disk drives, and a storage capacity of the first memory allocated for each user using the information processing apparatuses.

According to the present invention, in response to reception of a transmission request of the information on management of the storage resource from a user via a user interface, an identifier of the communication port, an identifier of the physical disk drive, and a storage capacity of the first memory which have been allocated for said user are transmitted to the user interface.

The search of the above features was conducted in the following areas:

| <u>Class</u> | <u>Subclasses</u> |
|--------------|-----------------------------|
| 707 | 200-204 |
| 709 | 213 |
| 711 | 111-114,118,141-148,151-154 |
| 711 | 161-165,170-173 |
| 714 | 5-7 |

Additionally, a computer database search was conducted on the USPTO systems EAST and WEST.

(D) The following is a list of the references deemed most closely related to the subject matter encompassed by the claims:

| <u>U.S. Patent Number</u> | <u>Inventors</u> |
|---------------------------|------------------|
| 4,467,421 | White |
| 5,210,844 | Shimura et al. |
| 6,421,711 | Blumenau et al. |

| <u>U.S. Patent Application Publication No.</u> | <u>Inventor(s)</u> |
|--|--------------------|
| 2002/0010843 | Sanada et al. |
| 2002/0133669 | Devireddy et al. |
| 2002/0156984 | Padovano |
| 2004/0123068 | Hashimoto |
| 2005/0050268 | Yoshida |

| <u>Foreign Documents</u> | <u>Inventor(s)</u> |
|--------------------------|--------------------|
| WO 01/95113 | Bhavsar |
| EP 1357476 | Ohno et al |

A copy of each of these references (as well as other references uncovered during the search) was filed in the USPTO as part of an Information Disclosure Statement on June 14, 2005.

(E) It is submitted that the present invention is patentable over the references for the following reasons.

It is submitted that the cited references, whether taken individually or in combination with each other, fail to teach or suggest the invention as claimed. In particular, the cited references, at a minimum, fail to teach or suggest as recited in the claims:

a first feature of the present invention as recited in independent claims 1 and 7 wherein in response to a reception of a transmission request of the information on management of the storage resource from a user via a user interface, an identifier of the communication port, an identifier of the physical disk drive, and a storage capacity of the first memory which have been allocated for said user are transmitted to said user interface; and

a second feature of the present invention as recited in independent claim 4 wherein in response to said receiving step, transmitting an identifier of the communication port, an identifier of the physical disk drive and a storage capacity of the first memory which have allocated for said user to said user interface.

Further, the cited references fail to teach or suggest the above noted features of the present invention when taken in combination with other limitations recited in the claims.

The references considered most closely related to the claimed invention are briefly discussed below:

White (U.S. Patent No. 4,467,421) discloses a data storage system adapted to be connected to a host digital computer for determination of where on

associated magnetic memory units individual portions of user data sets are to be stored, and for recall of the addresses determined upon the host's requiring the data. The system features a memory control processor external to the host computer which divides user-defined data sets into blocks of a size convenient for storage on, e.g., magnetic media and individually assigns these blocks to locations determined external to the host. In this way, the extent of a particular data file is not specified by the user; nor is empty space allocated in anticipation of future use. The virtual memory system may additionally comprise a high speed cache memory for receiving data written to the memory system at high speed from the host. Data anticipated to be the subject of future requests can be staged to the cache, so that it can be supplied to the host at high speed, thus improving system performance. Data compression and decompression may be incorporated in the storage system. Numerous data back-up and automated recovery processing operations may additionally be performed by this system without specific instruction from the host. (See, e.g., Abstract and column 5, line 54, through column 6, line 24).

However, White teaches a cache and a main memory, but does not teach or suggest storing storage resource information or transmitting such information to a user as in the present invention as recited in the claims. Further, unlike the present invention, White does not teach or suggest a first memory storing a data which is read/written among the data stored in the physical disk drives, and a second memory storing information on management of storage resources including the communication ports, the physical disk drives, and a storage

capacity of the first memory allocated for each user, as in the present invention as recited in claims. Additionally, White fails to teach or suggest that, in response to reception of a transmission request of information on management of the storage resources from a user via a user interface, an identifier of the communication port, an identifier of the physical disk drive, and a storage capacity of the first memory which have been allocated for the user are transmitted to the user interface as in the present invention as recited in claims.

More particularly, White at a minimum fails to teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 7 and the above described second feature of the present invention as recited in independent claim 4, and further fails to teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Shimura (U.S. Patent No. 5,210,844) discloses an information processing apparatus having at least one processor and a main storage, accessed by the processor, and capable of providing a plurality of logical information processing apparatus by logically partitioning the information processing apparatus. The information processing apparatus includes a main storage partitioned into a plurality of memory areas, each of the memory areas corresponding to one of the plurality of logical information processing apparatus. The information processing apparatus further includes a first storage unit for storing identification information for each of the memory areas identifying the logical information processing apparatus allocated to each memory and a read unit for reading the identification

information from the first storage unit when the main storage is to be accessed by one of the plurality of logical information processing apparatus. Each of the plurality of logical information processing apparatus possesses a unique identification information. The information processing apparatus further includes a comparison unit for comparing the identification information read by the read unit with the identification information of the one logical information processing apparatus which accesses the main storage and a unit for determining if the access to the main storage is allowed, in accordance with the comparison result of the comparison unit. Access by the one logical information processing apparatus is cancelled if the determining unit determines the access is not allowable. (See, e.g., Abstract and column 2, line 55, through column 3, line 23).

However, unlike the present invention, Shimura et al. do not teach or suggest a storage control apparatus or method for storing information on management of storage resources or transmitting such information to a user as in the present invention as recited in the claims. Further, Shimura et al. do not teach or suggest a first memory storing a data which is read/written among the data stored in the physical disk drives, and a second memory storing information on management of storage resources including the communication ports, the physical disk drives, and a storage capacity of the first memory allocated for each user, as in the present invention as recited in claims. Nor do Shimura et al. teach or suggest that in response to reception of a transmission request of information on management of the storage resources from a user via a user interface, an identifier of the communication port, an identifier of the physical disk drive, and a

storage capacity of the first memory which have been allocated for the user are transmitted to the user interface, as in the present invention as recited in claims.

More particularly, Shimura at a minimum fails to teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 7, and the above described second feature of the present invention as recited in independent claim 4, and further fails to teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Blumenau (U.S. Patent No. 6,421,711) discloses a data storage subsystem that includes data storage and a storage controller coupled to the data storage for controlling access to the data storage. The storage controller has at least one physical data port for a data network including host processors. The storage controller is programmed to provide a plurality of virtual ports for access to storage, and a virtual switch for routing storage access requests from the physical port to the virtual ports. The virtual ports and the virtual switch are defined by software. The virtual ports appear to the hosts as physical ports in the data network. For convenient partitioning of storage among host processors, one or more virtual ports are assigned to each host, and a set of storage volumes are made accessible from each virtual port. A host can access storage at a virtual port only if the virtual port has been assigned to the host. Preferably, storage can be accessed through each virtual port by no more than one assigned host, although a shared volume may be accessible from more than one virtual port. The storage controller may provide a service for reporting to a host the virtual

ports through which the host can access storage, and the storage volumes that are accessible to the host through each of the virtual ports. The storage system includes a cached storage subsystem connected via a data network to a plurality of hosts. The cached storage subsystem includes storage volumes and a storage controller for controlling access of the hosts to the storage volumes. (See, e.g., Abstract and column 2 line, 42 through column 3, line 65, and column 6, line 64 through column 7, line 65).

However, unlike the present invention, Blumenau fails to teach or suggest a memory storing information on management of storage resources as in the present invention as recited in the claims. Thus, Blumenau et al. do not teach or suggest a first memory storing a data which is read/written among the data stored in the physical disk drives, and a second memory storing information on management of storage resources including the communication ports, the physical disk drives, and a storage capacity of the first memory allocated for each user, as in the present invention as recited in the claims. Further, Blumenau et al. do not teach or suggest transmitting information on resources to a user and that in response to reception of a transmission request of information on management of the storage resources from a user via a user interface, an identifier of the communication port, an identifier of the physical disk drive, and a storage capacity of the first memory which have been allocated for the user are transmitted to the user interface, as in the present invention as recited in the claims.

More particularly, Blumenau at a minimum fails to not teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 7, and the above described second feature of the present invention as recited in independent claim 4, and further fails to teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Sanada (U.S. Patent Application Publication No. 20020010843) discloses a storage system with a storage controller unit. A storage controller is constituted from a fiber channel control unit which may be a protocol processor including a direct memory access (DMA) for controlling data transmission between it and the host computers, a microprocessor for controlling all possible operations of the storage controller, a control memory for storing microprograms for control of the operation of the controller along with control data associated therewith, a disk cache for temporarily buffering write data and read data to/from a disk drive(s), a cache control unit for controlling writing and reading data to and from the cache, a device interface control unit which may be a protocol processor including DMA for controlling data transfer between it and its associative disk drives, and a panel for use in inputting device configuration information to the storage controller. The disks constituting the disk array subsystem are logically divided into portions or "partitions" which may be set at specified RAID levels different from one another. The partitions are called the RAID group. This RAID group is further logically subdivided into regions that may be SCSI access units

called the logical units (LUs), each of which has its unique logical unit number (LUN). (See, e.g., Abstract and paragraphs 34 - 37.)

Sanada teaches the use of control tables 130, 140 and 160, stored in the storage controller 40, which are used to control and manage access to storage areas of the disk drives. However, the information contain in the control tables 130, 140 and 160 of Sanada is not transmitted to a user at a user interface in response to a request from the user for such information as in the present invention as recited in the claims. Further, Sanada does not teach or suggest that the information transmitted in response to the user request to the user via the user interface includes an identifier of the communication port, an identifier of the physical disk drive, and a storage capacity of the first memory which have been allocated for the user, as in the present invention as recited in the claims.

More particularly, Sanada at a minimum fails to teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 7 and, the above described second feature of the present invention as recited in independent claim 4, and further fails to teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Devireddy (U.S. Patent Application Publication No. 2002/0133669) discloses a storage device configuration manager for a computer system that includes a processor, a memory coupled to the processor, and at least one storage device coupled to the processor. At least a portion of the storage device configuration manager is software executable on the processor. The storage

device configuration manager includes a user interface and a policy engine. The user interface is operable to allow a user to perform at least one of: creating a storage policy, selecting a storage policy, modifying a storage policy, deleting a storage policy, loading a storage policy into the memory, displaying contents of a storage policy, and causing a storage policy to be executed. The policy engine is operable to execute at least one command based on information from a storage policy. The at least one command configures the at least one storage device for operation. In another aspect of the invention, a computer system includes a processor, a memory coupled to the processor, at least one storage device coupled to the processor, and a storage device configuration manager. The storage device configuration manager is at least partially executable on the processor and at least partially stored in the memory. The storage device configuration manager includes a user interface and a policy engine. The user interface is operable to allow a user to perform at least one of: creating a storage policy, selecting a storage policy, modifying a storage policy, deleting a storage policy, loading a storage policy into the memory, displaying contents of a storage policy, and causing a storage policy to be executed. The policy engine is operable to execute at least one command based on information from a storage policy. The at least one command for configures the at least one storage device for operation. (See, e.g., Abstract and paragraphs 10-12, 20-21.)

However, unlike the present invention, Devireddy does not teach or suggest a storage control apparatus having a second memory storing information on management of storage resources including the communication ports, the

physical disk drives, and a storage capacity of the first memory allocated for each user as in the present invention as recited in the claims. Thus, Devireddy does not teach or suggest a first memory storing a data which is read/written among the data stored in the physical disk drives, and a second memory storing information on management of storage resources including the communication ports, the physical disk drives, and a storage capacity of the first memory allocated for each user as in the present invention as recited in the claims. Further, Devireddy does not teach or suggest that in response to reception of a transmission request of information on management of the storage resources from a user via a user interface, an identifier of the communication port, an identifier of the physical disk drive, and a storage capacity of the first memory which have been allocated for the user are transmitted to the user interface as in the present invention as recited in the claims.

More particularly, Devireddy at a minimum fails to teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 7, and the above described second feature of the present invention as recited in independent claim 4, and further fails to teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Padovano (U.S. Patent Application Publication No. 2002/0156984) discloses a system and method for interfacing a storage area network (SAN) with a first data communication network. One or more hosts coupled to the first data communication network can access data stored in one or more of a plurality of

storage devices in the SAN. The one or more hosts access one or more of the plurality of storage devices as Network Attached Storage (NAS). A SAN server is coupled to a SAN. A NAS server is coupled to the SAN server through a second data communication network. The NAS server is coupled to the first data communication network. A portion of one of the plurality of storage devices is allocated from the SAN server to the NAS server. The allocated portion is configured as NAS storage in the NAS server. The configured portion is exported from the NAS server to be accessible to the one or more hosts coupled to the first data communication network. The system and method includes a method for managing the allocation of storage from a storage area network (SAN) as network attached storage (NAS) to a data communication network. A storage management directive is received from a graphical user interface. A message corresponding to the received storage management directive is sent to a NAS server. A response corresponding to the sent message is received from the NAS server. (See, e.g., Abstract and paragraphs 9 - 14.)

However, unlike the present invention, Padovano does not teach or suggest a storage control apparatus, and method of controlling same, that includes a second memory storing information on communication ports, the physical disk drives, and a storage capacity of a first memory allocated for each user as in the present invention as recited in the claims. Further, Padovano does not teach or suggest a first memory storing a data which is read/written among the data stored in the physical disk drives, and a second memory storing information on management of storage resources including the communication

ports, the physical disk drives, and a storage capacity of the first memory allocated for each user, as in the present invention as recited in the claims. Additionally, Padovano does not teach that, in response to reception of a transmission request of information on management of the storage resources from a user via a user interface, an identifier of the communication port, an identifier of the physical disk drive, and a storage capacity of the first memory which have been allocated for the user are transmitted to the user interface, as in the present invention as recited in the claims.

More particularly, Padovano at a minimum fails to teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 7, and the above described second feature of the present invention as recited in independent claim 4, and further fails to teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Hashimoto (U.S. Patent Application Publication No. 2004/0123068) discloses a method and system for reducing an overhead of storing a log of each host processor in a cluster system that includes a plurality of host processors. Part of a disk cache of a disk system shared by the plurality of host processors is used as a log storage area. In order to make this possible, the disk system is provided with an interface enabled to be referred and updated from each of the host processors separately from an ordinary I/O interface. A storage processor controls an area of the disk cache used for ordinary I/O processes by means of a disk cache control table. And a storage processor controls a log area allocated

in the disk cache by means of an exported segments control table. The disk cache area registered in the exported segments control table is mapped into the virtual address space of the main processor by an I/O processor. Each host processor, when accessing a disk drive, issues an I/O command. When accessing the log area, however, the host processor specifies a mapped virtual address and accesses the log area. Each storage processor distinguishes between an I/O command and an access to the log area to input/output data. In the computer system, each host processor includes a main processor and a main memory. The disk system includes a plurality of disk drives, a disk cache for storing at least a copy of part of the data stored in each of the plurality of disk drives, a configuration information memory for storing at least part of the information used to denote the correspondence between the virtual address space of the main processor and the physical address space of the disk cache, and an internal network used for the connection among the disk cache, the main processor, and the configuration information memory. (See, e.g., Abstract and paragraphs 18-21).

However, while Hashimoto includes a cache memory and a configuration information memory, Hashimoto does not teach or suggest storing in a second memory information on communication ports, the physical disk drives, and a storage capacity of a first memory allocated for each user in the configuration information memory as in the present invention as recited in the claims. Further, Hashimoto does not teach or suggest a first memory storing a data which is read/written among the data stored in the physical disk drives, and a second

memory storing information on management of storage resources including the communication ports, the physical disk drives, and a storage capacity of the first memory allocated for each user as in the present invention as recited in the claims. Still further, Hashimoto does not teach transmitting information on resources to a user and that, in response to reception of a transmission request of information on management of the storage resources from a user via a user interface, an identifier of the communication port, an identifier of the physical disk drive, and a storage capacity of the first memory which have been allocated for the user are transmitted to the user interface as in the present invention as recited in the claims.

More particularly, Hashimoto at a minimum fails to teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 7, and the above described second feature of the present invention as recited in independent claim 4, and further fails to teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Yoshida (U.S. Patent Application Publication No. 2005/0050268) discloses a disk array control apparatus that includes a plurality of disk array control units, each having: a channel interface interfacing with a host computer; a disk interface interfacing with a magnetic disk device; a cache memory for temporarily storing data to be read/written from/to the magnetic disk device; a shared memory portion for storing control information concerning data transfer between the channel interface and the cache memory and between the disk interface and

the cache memory and management information of the magnetic disk device; connection portion for connecting the channel interface and the disk interface to the cache memory; and connection portion for connecting the channel interface and the disk interface to the shared memory portion; wherein for data read/write request from the host computer, the channel interface performs data transfer between the interface with the host computer and the cache memory while the disk interface performs data transfer between the magnetic disk device and the cache memory, thereby performing data read/write, and where the connection network is provided for connection between the shared memory portions in the plurality of disk array control units and the connection network is provided for connection between the cache memories in the plurality of disk array control units. The connection network connecting the shared memory portions and the connection network connecting the cache memories operate independently from each other. In the channel interface and the disk interface of one of the disk array control units, it is possible to read/write data from/to the shared memory portion or the cache memory in another of disk array control units. This enables transfer processing requiring data transfer between the shared memory portion in one of the disk array control units and the shared memory portion in another of the disk array control units. (See, e.g., Abstract and paragraphs 17-20.)

However, while Yoshida discloses first and second memories, the second memory does not store information including the communication ports, the physical disk drives, and a storage capacity of the first memory allocated for each user as in the present invention as recited in the claims. Further, Yoshida does

not teach or suggest a first memory storing a data which is read/written among the data stored in the physical disk drives, and a second memory storing information on management of storage resources including the communication ports, the physical disk drives, and a storage capacity of the first memory allocated for each user, as in the present invention as recited in the claims. Still further, Yoshida does not teach or suggest that, in response to reception of a transmission request of information on management of the storage resources from a user via a user interface, an identifier of the communication port, an identifier of the physical disk drive, and a storage capacity of the first memory which have been allocated for the user are transmitted to the user interface, as in the present invention as recited in the claims.

More particularly, Yoshida at a minimum fails to teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 7, and the above described second feature of the present invention as recited in independent claim 4, and further fails to teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Bhavsar, (WO 01/95113), cited in the European search report, shows a network that includes one or more servers, switching fabrics, and storage devices. Fabric or infrastructure cache devices (FICDs) are caching devices located within the fabric, or within other network infrastructure devices. The use of each FICD cache is coordinated through a fabric cache server. The fabric cache server identifies the capacity, type, functions and responsibility of each

FICD cache. If caching is enabled on a specific port of the FICD, all storage device data passing through the specified FICD port number may be cached by the FICD. If caching is disabled on a specific port of the FICD, all dirty data of a write back cache will be de-staged to the appropriate device and all read cache data for the storage devices connected to the specific FICD port will be discarded. Storage devices may directly connected to FICDs, and read/write data passing through the FICD will be captured and stored in the cache memory of the FICD as cache data. Accordingly, Bhavsar discloses the use of multiple memories connected to a switching fabric. (See, Abstract and paragraphs 27, 28, 34, 35, 44, and 56).

However, Bhavsar does not teach or suggest a storage control apparatus or method having a second memory storing information on management of storage resources as in the present invention as recited in the claims. Further, Bhavsar does not teach or suggest a storage control apparatus and method of controlling same, a first memory storing a data which is read/written among the data stored in the physical disk drives, and a second memory storing information on management of storage resources including the communication ports, the physical disk drives, and a storage capacity of the first memory allocated for each user, as in the present invention as recited in the claims. Additionally, Bhavsar does not teach or suggest a storage control apparatus and method of controlling same, wherein, in response to reception of a transmission request of information on management of the storage resources from a user via a user interface, an identifier of the communication port, an identifier of the physical disk drive, and a

storage capacity of the first memory which have been allocated for the user are transmitted to the user interface, as in the present invention as recited in the claims.

More particularly, Bhavsar at a minimum fails to teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 7, and the above described second feature of the present invention as recited in independent claim 4, and further fails to teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Ohno (EP 1357476) shows a storage control apparatus that includes a control memory 14 and a cache memory 13. The control memory 14 is used for storing various control data and tables. Examples of the control data include a structure information management table 41, a bit map 42, access limit information table 43, and update management table 44, which are used for management of a storage area of one or more logical volumes, including information concerning the performance of the logical volume, information concerning storage capacities, and information concerning remaining amounts. (See, e.g., Abstract and paragraphs 20-22 and 40-46).

However, while Ohno teaches a storage control apparatus including a control memory that contains certain control data and tables for controlling the operation of the storage system, there is no teaching or suggestion in Ohno that information from the control data and tables are transmitted to the user interface in response to reception of a transmission request of the information from a user

via the user interface, and that the transmitted information includes an identifier of the communication port, an identifier of the physical disk drive, and a storage capacity of the first memory which have been allocated for the user, as in the present invention as recited in the claims.

More particularly, Ohno et al. at a minimum fails to teach or suggest the above described first feature of the present invention as recited in independent claims 1 and 7, and the above described second feature of the present invention as recited in independent claim 4, and further fails to teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Therefore, since the cited references at a minimum fail to teach or the above described first feature of the present invention as recited in independent claims 1 and 7, and the above described second feature of the present invention as recited in independent claim 4, and further fail to teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims, it is submitted that all of the claims are patentable over the cited references whether said references are taken individually or in combination with each other.

F. Conclusion

Applicant has conducted what it believes to be a reasonable search, but makes no representation that "better" or more relevant prior art does not exist. The United States Patent and Trademark Office is urged to conduct its own complete search of the prior art, and to thoroughly examine this application in view of the prior art cited herein and any other prior art that the United States Patent and Trademark Office may locate in its own independent search. Further, while Applicant has identified in good faith certain portions of each of the references listed herein in order to provide the requisite detailed discussion of how the claimed subject matter is patentable over the references, the United States Patent and Trademark Office should not limit its review to the identified portions but rather, is urged to review and consider the entirety of each reference, and not to rely solely on the identified portions when examining this application.

In view of the foregoing, Applicant requests that this Petition to Make Special be granted and that the application undergo the accelerated examination procedure set forth in MPEP 708.02 VIII.

G. Fee (37 C.F.R. 1.17(i))

The fee required by 37 C.F.R. § 1.17(i) is to be paid by:

☒ the Credit Card Payment Form (attached) for \$130.00.


☐ charging Account _____ the sum of \$130.00.

A duplicate of this petition is attached.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.,
Deposit Account No. 50-1417 (500.43450X00).

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.



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| | | | |
|---|--|------------------------|--------------------|
| PETITION FEE Under 37 CFR 1.17(f), (g) & (h) TRANSMITTAL (Fees are subject to annual revision) Send completed form to: Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450 | | Application Number | 10/765,883 |
| | | Filing Date | January 29, 2004 |
| | | First Named Inventor | H. YASUKAWA, et al |
| | | Art Unit | |
| | | Examiner Name | |
| | | Attorney Docket Number | 500.43450X00 |

Enclosed is a petition filed under 37 CFR § 1.17(f) that requires a processing fee (37 CFR 1.17(f), (g), or (h)). Payment of \$ 130.00 is enclosed.

This form should be included with the above-mentioned petition and faxed or mailed to the Office using the appropriate Mail Stop (e.g., Mail Stop Petition), if applicable. For transmittal of processing fees under 37 CFR 1.17(i), see form PTO/SB/17i.

Payment of Fees (small entity amounts are NOT available for the petition (fees))

- ☒ The Commissioner is hereby authorized to charge the following fees to Deposit Account No. 50-1417:
- ☐ petition fee under 37 CFR 1.17(f), (g) or (h) ☒ any deficiency of fees and credit of any overpayments
- Enclose a duplicative copy of this form for fee processing.
- ☐ Check in the amount of \$ _____ is enclosed.
- ☒ Payment by credit card (From PTO-2038 or equivalent enclosed). Do not provide credit card information on this form.

| | | |
|--|------------------|----------------------|
| Petition Fees under 37 CFR 1.17(f): For petitions filed under: § 1.53(e) - to accord a filing date. § 1.57(a) - to according a filing date. § 1.182 - for decision on a question not specifically provided for. § 1.183 - to suspend the rules. § 1.378(e) for reconsideration of decision on petition refusing to accept delayed payment of maintenance fee in an expired patent. § 1.741(b) - to accord a filing date to an application under § 1.740 for extension of a patent term. | Fee \$400 | Fee Code 1462 |
| Petition Fees under 37 CFR 1.17(g): For petitions filed under: § 1.12 - for access to an assignment record. § 1.14 - for access to an application. § 1.47 - for filing by other than all the inventors or a person not the inventor. § 1.59 - for expungement of information. § 1.103(a) - to suspend action in an application. § 1.136(b) - for review of a request for extension of time when the provisions of section 1.136(a) are not available. § 1.295 - for review of refusal to publish a statutory invention registration. § 1.296 - to withdraw a request for publication of a statutory invention registration filed on or after the date the notice of intent to publish issued. § 1.377 - for review of decision refusing to accept and record payment of a maintenance fee filed prior to expiration of a patent. § 1.550(c) - for patent owner requests for extension of time in <i>ex parte</i> reexamination proceedings. § 1.956 - for patent owner requests for extension of time in <i>inter partes</i> reexamination proceedings. § 5.12 - for expedited handling of a foreign filing license. § 5.15 - for changing the scope of a license. § 5.25 - for retroactive license. | Fee \$200 | Fee code 1463 |
| Petition Fees under 37 CFR 1.17(h): For petitions filed under: § 1.19(g) - to request documents in a form other than that provided in this part. § 1.84 - for accepting color drawings or photographs. § 1.91 - for entry of a model or exhibit. § 1.102(d) - to make an application special. § 1.138(c) - to expressly abandon an application to avoid publication. § 1.313 - to withdraw an application from issue. § 1.314 - to defer issuance of a patent. | Fee \$130 | Fee Code 1464 |

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|-------------------|---|-----------------------------------|-------------------|
| Name (Print/Type) | Carl I. Brundidge | Registration No. (Attorney/Agent) | 29,621 |
| Signature |  | Date | September 9, 2005 |

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.